

A SECONDARY ROAD SYSTEM FOR INDIANA

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The Federal Government, recognizing the economic value of developing the arterial highways of the nation, in 1916 passed the Federal Aid Road Act, which gave to the states financial aid in their road building programs. The direct effect of the act was to formulate a plan and adopt a system of interstate and state highways upon which road construction activities throughout the nation would be concentrated.

For several years appropriations authorized for federal aid have been 75 million dollars annually and on June 30, 1929, we find 188,857 miles of main interstate and intercounty roads included in the federal aid highway system, of which 79,796 miles have been improved. In Indiana the federal aid system includes 4,701 miles, of which 1,266 miles have been improved with federal aid.

The results obtained by this act have been very gratifying. Commendation and praise are due the highway officials both national and state for the remarkable achievements which they have accomplished. Through their co-operation and co-ordination of effort we find ourselves today using a highway system second to none throughout the world.

In the United States there are over 3 million miles of highways of which about 10 per cent are included in the state highway systems. Approximately 625,000 miles, including 63% of the state highway system and 16% of the local roads, have been improved with some type of surfacing. About 102,000 miles, comprising about 22% of the state highway system and about 8% of the local roads, are hard surfaced.

In Indiana we have 73,000 miles of highways, of which about 7% are included in the state highway system. Approximately 48,000 miles, including 99% of the state highway system and 71% of the local roads, have been improved with some type of surfacing. About 2,400 miles, comprising about 51% of the state highway system and about 3% of the local roads, are hard surfaced. It is evident that road construction must be a long continued program.

Is it not also evident that state and county governments should at once formulate a plan and adopt a system of inter-

county and county highways upon which road construction activities should be concentrated?

Most counties in Indiana since 1913 have accumulated a group of roads which they call a county road system. Practically all county roads in Indiana have been constructed under either the Three Mile Road Law or County Unit Act and any road so constructed automatically becomes a part of the county highway system.

Almost universally, county officials have acted upon petitions in the order of their filing, priority being determined solely upon date of filing of the petition rather than upon the more essential factors, such as general public benefit, cost of maintenance, density of traffic, etc.

As a result of this practice, roads of secondary importance have been constructed ahead of roads of primary importance. Taxing units are bonded to the 2% constitutional limit and have no further funds available for road construction, yet many projects of primary importance are forced to await their turn and in so doing exorbitant maintenance costs are incurred and the traveling public subjected to unnecessary expense and inconvenience.

Taking a group of roads dumped upon the county in this manner and calling it a county road system is a misnomer, as it bears no semblance to a system. A system should signify something which has been formulated into a unit in some orderly arrangement and according to some law or principle, in order that it may render an efficient service.

Now let us formulate a secondary highway system for your own individual county. To do this, I suggest that you visualize your own county, with which you are entirely familiar, and try to see how closely the following will fit your own particular community.

Suggested Plan for County Road System

In most counties, state roads bisect the county both north and south and east and west and at the intersection of the two roads is situated the county seat. In each quadrant of the county are various townships in which are located towns, churches, consolidated high schools, and various other community centers which both produce and attract traffic. Now let us take each township, which is ordinarily 6 miles square, and

bisect it both east and west and north and south, extending the lines over into the next township where it will ordinarily connect with some other community center which will welcome this development. Now in every township and county in the state we have a crisscross system composed of approximately 12,200 miles, constituting a secondary highway system for Indiana which is firmly interlocked into the present state highway or primary system. Of course, the location of such a system cannot be made without taking into account natural obstacles, topography, relative location of towns, and many other factors, but by making slight variations a very workable system may be evolved.

If this plan were adopted, we would then have a primary system of 7% and a secondary system of approximately 18% of the total mileage in the state. In a county consisting of twelve townships we would have a secondary road system of approximately 150 miles upon which to concentrate our highway improvements and thereby give to every community an all-weather road. The very communities which we are now connecting have come to depend largely upon motor transport for all their commercial and social activities. If we are to make the most economical and practical use of motor transport, we must have on both our primary and secondary highway systems roads which are usable at all times.

Motor transport cannot be fully effective if limited to trunk line highways only. Trunk line highways are of no value unless people can get to them.

Agreeing that present methods are not giving satisfactory results, we are confronted with the problem of substituting something in their place which will produce the desired effect. Is not state aid to the counties a solution?

A state aid fund can be created out of the gasoline fund now being returned to the counties, the money to be available to the counties after the board of commissioners has established in their respective counties a satisfactory secondary road system upon which the state aid is to be expended. Allocation of the state aid fund to the various counties will be made upon the same basis as that on which federal aid is allotted to the various states. Application for, and expenditure of, state aid moneys by the counties shall be controlled by the same regulatory measures to which the states are subjected when applying for or receiving federal aid under the federal aid act.

Federal aid to the states has proven a highly effective and satisfactory method of developing a primary road system for the nation. Is it not reasonable to assume that through employment of similar methods by the state and counties an effective and satisfactory secondary road system could be given to Indiana?

SECONDARY ROAD DEVELOPMENT

By A. O. Hastings, District Engineer, Indiana State Highway Commission, Greenfield

Early roads in Indiana were principally established by legislative acts connecting main trading points. These routes followed, in a general way, old Indian trails or higher ground levels between points authorized to connect. The early routes prior to 1853 were opened and maintained by money obtained through an act known as the Three Per Cent Fund Act. This fund came from the federal government and was a part of moneys obtained through the sale of public lands. This was apportioned to the various states something on the order of our present federal aid fund and was administered by a commission appointed by the state legislature.

In 1853, a legislative act conferred upon the several boards of county commissioners the authority of locating and maintaining roads. As the country developed, a network of public roads was laid out and improved. With the economic development of this state, some of these roads became of primary importance while others were only secondary and some of the early locations were eventually abandoned.

Shortly after the Civil War many of the primary roads were improved and maintained by toll-road companies. These toll-roads were pretty generally purchased by the various counties in the 80's and early 90's and formed a basis of the free gravel road system in each county.

Road maintenance and construction was principally carried on by township trustees until about 1909, when the three-mile road law was enacted. The counties are still using this law for county road improvement. About 1913 an act of the legislature authorized the appointment of a county road superintendent, responsible for the expenditure of the free gravel road repair fund in the upkeep of a county system of roads.